Carnitine Status Before and After Paracentesis in Patients With Ascites and Liver Cirrhosis and Improvement of Subjective Symptoms by Intravenous Administration of Carnitine — Initial Study

Hotta

Department of Internal medicine,Division of Hepatology,Masuko Memorial Hospital 35-28 Takebashi Nakamura-ku,Nagoya,Aichi,Japan 453-8566

Abstract:

Introduction: Recently, carnitine has been reported to be useful for improving blood ammonia and cognitive function in cirrhotic patients with subclinical hepatic encephalopathy In Japan, levocarnitine has become available, and there have been several reports in which the carnitine concentration was first measured and whether symptomatic patients improved or not . And, the examination of symptomatic state around the ascites centesis was also carried out.

Method: Total carnitine concentration was measured in 5 cirrhotic patients undergoing ascites drainage during our hospital ambulatory, and after ascites drainage, intravenous administration of ercarnitine was conducted to examine whether or not the symptoms improved. Carnitine concentrations were measured before and after dialysis in four non-dialysis patients and one dialysis patient. Oral carnitine was administered in 3 patients (1 dialysis patient) because symptoms of cramps were noted, but in 2 cases. It was administered only after ascites drainage.

case presentation: The case was in a 55 year-old male. The chief complaint was persistent ascites, cramps and general malaise. The patient had a medical history of treatment with radiofrequency ablation (Radiofrequency: RFA) for hepatocellular carcinoma. The patient had been followed up at another hospital for chronic liver cirrhosis type C. Interferon therapy was performed for liver cirrhosis, resulting in a virological complete response (sustained virological response: SVR). The ascites storage was obvious, but the round was repeated from 2 to 3 times a week of golf. Because of frequent leg cramps during and at the end of golf, patients were given branched-chain amino acid preparations and liver protection drugs as oral medications. In a patient with liver cirrhosis, improvement of hepatic encephalopathy associated with decreased carnitine level and decreased ammonia were reported, and deterioration of muscle symptoms associated with carnitine deficiency in a dialysis patient was also reported 1) 2) 3).. Therefore, 4) Carnitine concentration and acylcarnitine/free carnitine ratio were measured in this patient, and administration of ercarnitine preparation was started. The carnitine concentration was within the normal range for total carnitine, acylcarnitine, and free carnitine, and the carnitine ratio was not below 0.4, which is the criterion for abnormal values.5). Administration of carnitine preparation was started from 600 mg of ercarnitine. Three days later, the patient's cramps improved. The appearance of the symptom could not be recognized during and after golf. Carnitine concentration 1 month after administration of carnitine was increased in all cases, and the ratio of acylcarnitine/free carnitine was also decreased (0.388 to 0.253). Carnitine concentration 11 months after administration increased in all cases, and the ratio of acylcarnitine/free carnitine was slightly increased, but was 0.4 or less (Fig 1). The patient is currently hospitalized and discharged from the hospital after drainage of ascites. Ascites drainage was performed once or twice a week. Carnitine administration after ascites drainage increased the carnitine level without cramping or general malaise (Fig 2).